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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR   | ATTORNEY DOCKET NO.                  | CONFIRMATION NO.       |
|--|-------------|------------------------|--------------------------------------|------------------------|
| 10/803,577   | 03/18/2004  | Bandarpalle B. Shankar | IN06009US01                          | 5973                   |
| 24265 7590 10/02/2007<br>SCHERING-PLOUGH CORPORATION<br>PATENT DEPARTMENT (K-6-1, 1990)<br>2000 GALLOPING HILL ROAD<br>KENILWORTH, NJ 07033-0530 |             |                        | EXAMINER<br>DAVIS, ZINNA NORTHINGTON |                        |
|  |             |                        | ART UNIT<br>1625                     | PAPER NUMBER           |
|  |             |                        | MAIL DATE<br>10/02/2007              | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/803,577

Applicant(s)

SHANKAR ET AL.

Examiner

Zinna Northington Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23,30,31 and 58-92 is/are pending in the application.
- 4a) Of the above claim(s) 18-21,58-63 and 66-91 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16,22,23,30,31,64,65 and 92 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

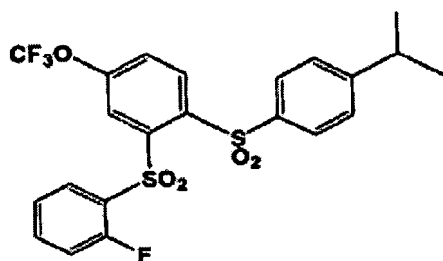
- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 07/24/07.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Claims 1-23, 30, 31, and 58-92 are pending. Claims 24-29 and 32-57 have been cancelled.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 24, 2007 has been entered.
3. Based upon the Amendment filed July 24, 2007, the rejection under 35 U.S.C. 102(b) based upon Truce et al. has been withdrawn. This prior art compound has been excluded by proviso.
4. In the response filed May 30, 2006, Applicants have elected Group I, claims 1-23, 30, and 31 with traverse. At page 43, compound 12C is the preferred species. This compound is recited at claim 17. The compound is depicted below:



5. Claims 1-17, 22, 23, 30, 31, 64, 65, and 92 are Markush claims which are generic to the elected invention. These Markush claims lack unity of invention. Accordingly, the Markush type claim will be examined fully with respect to the elected

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species and further to the extent necessary to determine patentability. See MPEP 803.02.

6. Claims 1-17, 22, 23, 30, 31, 64, 65, and 92 are objected on the grounds that the claims are drawn to an improper Markush group. In re Harnisch, 206 USPQ 300, states that a unity of invention exists where compounds included within a Markush group(1) share a common utility and (2) share a substantial structural feature disclosed as being essential to that utility. In the instant case, the claimed subject matter does not share a substantial structural feature disclosed as being essential to that utility.

The requirement for a proper Markush claim is that it includes only substances that in their physical, chemical and physiological characteristics are functionally equivalent. The members of the instant Markush groups possess widely different, physical and chemical properties. The compounds are not considered functionally equivalent and are so diverse that they demonstrate dissimilar and unrelated properties. The mere fact that there is structural similarity in pharmaceutical agents is not in itself reason to render all the embodiments functionally equivalent.

The improper Markush groups are X, Z, R<sup>1</sup>, L<sup>1</sup>, L<sup>2</sup>, M<sup>1</sup>, M<sup>2</sup>, n, p, and q.

7. The examined subject matter is as follows:

A compound of formula I wherein L<sup>1</sup> and L<sup>2</sup> = S(O)<sub>n</sub>; n = 0-2; M<sup>1</sup> = aryl; and M<sup>2</sup> = aryl.

The radicals not defined herein are as defined in claim 1. Amending the claims to the examined subject matter would overcome the improper Markush rejection.

8. Claims 18-21, 58-63, and 66-91 are withdrawn from consideration by the Examiner.

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9. Applicants are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently filed petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(h).

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

11. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 should end in a period. Correction is appreciated.

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1-7, 10, 11, 22, 23, 30, 31, 64, 65, and 92 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Campbell et al (Reference A, cited by the Examiner).

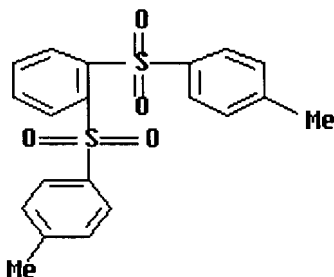
The instantly claimed compound is disclosed. At the 1<sup>st</sup> page, see the named compound, R-S-R<sub>1</sub>-S-R.

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The claimed compounds are fully met when  $L_1$  and  $L_2 = S$  and  $O$ ;  $M^1$  and  $M^2 = \text{aryl}$  and  $R$  is present.

14. Claims 1-15, 22, 23, 30,31,64, 65, and 92 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Truce et al (Reference U, cited by the Examiner).

The instantly claimed compound is disclosed. At page 2904, see the named compound, 1, 2 bis-(p-tolylsulfonyl)- benzene, which is depicted below:



The claimed compounds are fully met when  $L_1$  and  $L_2 = S(O)_2$ ;  $M^1$  and  $M^2 = \text{aryl}$  and  $R$  is present.

15. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims to the extent that the claims read on the examined subject matter as recited above.

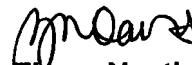
16. The Information Disclosure Statement filed July 24, 2007 has been considered.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zinna Northington Davis whose telephone number is 571-272-0682.

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18. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications.

19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Zinna Northington Davis**  
**Primary Examiner**  
**Art Unit 1625**